## ABSTRACT

blood processing system comprises processing chamber to process blood and a fluid flow cassette that communicates with the processing chamber. The cassette comprises a body, a pump chamber formed in the body, and a flexible diaphragm on the pump chamber responsive to an applied fluid pressures for flexure toward and away from the pump chamber to pump fluid through the pump chamber. The cassette also includes a flow path formed, at least in part, in the body to couple the pump chamber in fluid flow communication with the processing chamber, to convey fluid pumped by the pump chamber into the processing chamber. The cassette also includes an in line cavity formed in the body and located in the flow path to trap air to prevent entry of air into the processing chamber.

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